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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22879 7590 11/19/2009

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
3404 E. Harmony Road  
Mail Stop 35  
FORT COLLINS, CO 80528

EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 11/19/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/700,956

10/31/2003

William D. Holland

10011570-1

5976

TITLE OF INVENTION: LASER SCANNING APPARATUSES, LASER SCANNING METHODS AND ARTICLE MANUFACTURE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/19/2010

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

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#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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22879 7590 11/19/2009

**HEWLETT-PACKARD COMPANY**  
Intellectual Property Administration  
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FORT COLLINS, CO 80528

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/700,956 10/31/2003 William D. Holland 10011570-1 5976

TITLE OF INVENTION: LASER SCANNING APPARATUSES, LASER SCANNING METHODS AND ARTICLE MANUFACTURE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 02/19/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
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RODRIGUEZ, ARMANDO 2828 372-038020

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/700,956	10/31/2003	William D. Holland	10011570-1	5976
22879	7590	11/19/2009	EXAMINER	
HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528			RODRIGUEZ, ARMANDO	
			ART UNIT	PAPER NUMBER
			2828	
			DATE MAILED: 11/19/2009	

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 314 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 314 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/700,956	HOLLAND, WILLIAM D.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ARMANDO RODRIGUEZ	2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6-30-2009.
2. ☒ The allowed claim(s) is/are 1-12, 14-38 and 40-49.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|---|---|

/ARMANDO RODRIGUEZ/  
Primary Examiner, Art Unit 2828

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James D. Shaurette on November 9, 2009.

The claims have been amended as follows:

1. [Currently Amended] A laser scanning apparatus comprising:
  - a light source configured to generate a single light beam;
  - a scanning device optically coupled with the light source and configured to scan the single light beam along a photoconductor in a plurality of scan lines;
  - and
  - a start-of-scan detector assembly configured to sample the single light beam and initiate a start-of-scan operation of one of the scan lines of information to be written on the photoconductor, and wherein only the sampled single light beam is used to control a drive level of the light source to be substantially constant during scanning of the one of the scan lines.

9. [Currently Amended] A laser scanning apparatus comprising:  
a rotating scanning device configured to scan a light beam from a light source;  
a photodetector optically coupled with the rotating scanning device and configured to sample the light beam from the rotating scanning device;  
a control system configured to receive an indication of the sampled light beam from the photodetector and to control a drive level of the light source using only the indication of the sampled light beam; and  
wherein the control system is configured to maintain the light source at a substantially constant drive level during scanning of a single line of information on the photoconductor.

14. [Currently Amended] A laser scanning apparatus comprising:  
a laser configured to generate a single light beam;  
a scanning device configured to scan the single light beam from the laser;  
a photodetector optically coupled with the scanning device and configured to sample the single light beam only once per line of information scanned onto a photoconductor; and  
a control system configured to receive an indication of the sampled single light beam from the photodetector and to maintain a drive level of the laser at a substantially constant drive level during scanning of the line of information onto the photoconductor using only the indication of the sampled single light beam.

18. [Currently Amended] A laser scanning apparatus comprising:  
means for generating a single light beam;  
means for scanning the single light beam onto a photoconductor;  
means for sampling the single light beam which causes information to be scanned onto the photoconductor; and  
means for receiving an indication of the sampled single light beam from the means for sampling and for maintaining the means for generating at a substantially constant drive level using only the indication of the sampled single light beam and during scanning of the line of information onto the photoconductor.

22. [Currently Amended] A laser scanning method comprising:  
generating a single light beam using a light source;  
scanning the single light beam along a photoconductor using a rotating scanning device;  
sampling only the single light beam from the rotating scanning device using a sampling assembly;  
controlling the light source only using the sampling of only the single light beam; and  
as a result of the controlling, maintaining an output power of the light source at a substantially constant level during writing of a single scan line of information onto the photoconductor.

25. [Currently Amended] The method of claim 22, wherein the maintaining comprises maintaining the output power of the light source at the substantially constant level during the writing of the entirety of the single scan line of information onto the photoconductor.

29. [Currently Amended] A hard imaging device comprising:  
a photoconductor;  
a laser scanning apparatus configured to write scan lines of information onto the photoconductor, the laser scanning apparatus comprising:  
a laser configured to generate a single light beam;  
a scanning device optically coupled with the laser and configured to scan the single light beam along the photoconductor to form the scan lines;  
a sampling assembly optically coupled with the scanning device and configured to sample the single light beam and to generate a signal indicative of the sampling of the single light beam;  
a control system configured to control an intensity of the single light beam generated by the laser to be substantially constant during scanning of a line of information upon the photoconductor using only the signal indicative of the sampling of the single light beam; and  
an image engine configured to form hard images from the written scan lines using media.

31. [Currently Amended] An article of manufacture comprising:  
processor-usable media comprising programming configured to cause processing circuitry to:  
output a control signal to control a light source configured to generate a single light beam used to scan a plurality of scan lines of information onto a photoconductor;  
access an output of a start-of-scan detector assembly which is indicative of only the single light beam, wherein the output indicates appropriate timing for initiation of writing of the information for the respective scan lines;  
process the output of the start-of-scan detector assembly; and  
adjust the control signal using only the processing of the output to adjust an intensity of the single light beam generated by the light source.



45. [Currently Amended] The apparatus of claim 9 further comprising the light source, and wherein the light source is configured to only generate the light beam comprising only a single light beam, and the photodetector is configured to sample the single light beam and to provide the indication of only the sampled single light beam, ~~and the control system is configured to control the drive level of the light source only using the indication of only the sampled single light beam.~~

46. [Currently Amended] The apparatus of claim 14 wherein the photodetector is configured to provide the indication of only the sampled single light beam, ~~and the control system is configured to maintain the drive level of the laser at the constant drive level only using the indication of only the sampled single light beam.~~

47. [Currently Amended] The ~~method~~ apparatus of claim 18 wherein the means for sampling comprises means for providing the indication of only the sampled single light beam ~~and the means for maintaining comprises means for maintaining the means for generating at the constant drive level only using the indication of only the sampled single light beam.~~

### ***Allowable Subject Matter***

Claims 1-12, 14-38, 40-49 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1-8, 37, 48.

None of cited prior arts alone or in combination discloses the claimed laser scanning apparatus having the structural combination of independent claim 1, including among the limitations a single light beam, a scanning device, a photoconductor, a

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plurality of scan lines, a start-of-scan detector and wherein only the sampled single light beam is used to control a drive level to be substantially constant.

Regarding claims 9-12, 38, 45, 49.

None of cited prior arts alone or in combination discloses the claimed laser scanning apparatus having the structural combination of independent claim 9, including among the limitations a rotating scanning device, a photodetector, a control system to control a drive level using only the sampled light beam and maintains the light source at a substantially constant drive level.

Regarding claims 14-17, 46.

None of cited prior arts alone or in combination discloses the claimed laser scanning apparatus having the structural combination of independent claim 14, including among the limitations a single light beam, a scanning device, a photodetector, a photoconductor, a control system to control a drive level using only the sampled single light beam and maintains the laser at a substantially constant drive level.

Regarding claims 18-21, 47.

None of cited prior arts alone or in combination discloses the claimed laser scanning apparatus having the structural combination of independent claim 18, including among the limitations means for generating a single light beam, means for scanning, a photoconductor, means for sampling, means for receiving, and maintaining the means for generating at a substantially constant drive level using only the indication of the sampled single light beam.

Regarding claims 22-28, 40-43.

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None of cited prior arts alone or in combination discloses the claimed laser scanning method having the steps of independent claim 22, including among the limitations generating a single light beam, scanning the single light beam along a photoconductor, sampling only the single light beam, controlling the light source using only the single light beam, maintaining an output power of the light source at a substantially constant level.

Regarding claims 29, 30, 44.

None of cited prior arts alone or in combination discloses the claimed invention having the structural combination of independent claim 29, including among the limitations a photoconductor, a single light beam, a scanning device, a sampling assembly, a control system to control intensity to be substantially constant using only the single light beam.

Regarding claims 31-36.

None of cited prior arts alone or in combination discloses the claimed invention having the structural combination of independent claim 31, including among the limitations a single light beam, a plurality of scan lines, a start-of-scan detector, process the output of start-of-scan detector, adjust the control signal using only the processing of the output to adjust an intensity of the single light beam.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ARMANDO RODRIGUEZ/  
Primary Examiner  
Art Unit 2828

AR